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**Division of Energy**

**Public Meeting Report #5**  
**Fuels and Resource Extraction and Energy/Water Nexus**

**Missouri Comprehensive State Energy Plan**

**Stakeholder Engagement**  
**October 23, 2014**  
**Maryville, Missouri**  
**Northwest Missouri State University Student Union**

**BACKGROUND**

Under Governor Jay Nixon's Executive Order 14-06, the Division of Energy will gather public input to identify the policies and practices that will meet Missouri's need for clean, affordable and abundant energy in the future.

This meeting represented the fifth of seven public meetings held around the State of Missouri to collect public input and feedback into the Comprehensive Statewide Energy Plan (the Plan).

The Plan will recommend policies that encourage efficient use of energy in all sectors of the economy; spur job creation and economic growth; and promote development, security and affordability of diverse energy sources.

The meeting topic centered on Fuels and Resource Extraction, and Energy/Water Nexus. Steering Committee members were provided with a list of questions prior to the meeting to help guide the discussion. The objectives of the meeting included:

- 1) To convene individuals who were appointed to the Plan's Steering Committee and develop a culture for dialogue;
- 2) Discuss opportunities and issues around the topics of Fuels and Resource Extraction, and Energy/Water Nexus;
- 3) To introduce the background and purpose of the Plan to the public; and
- 4) To gather public input and comments around different energy topics.

**AGENDA**

The meeting was structured in four parts:

- 1) Introduction and welcoming remarks from Lewis Mills, Director of the Division of Energy.
- 2) Short presentations from experts.
- 3) Discussion among Steering Committee members.
- 4) Public comment period.

## ***Agenda Details***

- 1:00 PM Welcome and Introductions  
Lewis Mills, Director, Division of Energy  
Dr. John Jasinski, President, Northwest Missouri State University
- 1:10 PM Missouri's Comprehensive State Energy Plan  
Lewis Mills, Director, Division of Energy
- 1:20 PM Northwest Missouri State's Approach to Sustainability  
Dan Boyt, Northwest Missouri State University  
James Teaney, Northwest Missouri State University
- 1:35 PM Fuels and Resource Extraction  
Joe Gillman, State Geologist, Department of Natural Resources
- 2:05 PM Steering Committee Discussion  
Topic: Fuels and Resource Extraction  
Topic: Energy/Water Nexus  
Facilitator: Bennett J. Johnson, III, Inova Energy Group team
- 3:30 PM Break
- 3:40 PM Public Comment Period  
Facilitator: Bennett J. Johnson, III, Inova Energy Group team
- 5:00 PM Adjourn

## **ATTENDANCE**

### ***Steering Committee Members***

<b>First Name</b>	<b>Last Name</b>	<b>Affiliation</b>
Elizabeth	Bax	Hawthorn Foundation
Mike	Blank	Peabody Energy
Joan	Bray	Consumers Council of Missouri
Josh	Campbell	Missouri Energy Initiative
Terry	Cassil	State Emergency Management Agency
Jim	Curran	Electrical Connection
Joe	Gillman	Missouri Department of Natural Resources
Ashok	Gupta	Natural Resources Defense Council
Tracy	Howe-Koch	Missouri Interfaith Power & Light
Mark	Kaiser	Missouri Office of Administration
Frank	Kartmann	Missouri American Water Company
Duncan	Kincheloe	Missouri Public Utility Alliance
Laura	Lesniewski	American Institute of Architects
Heather	Lockard	Missouri Association for Community Action

First Name	Last Name	Affiliation
Karen	Massey	Environmental Improvement & Energy Resources Authority
Mike	Mueller	Ameren Missouri
Larry	Pleus	The Laclede Group
Angela	Rolufs	Missouri University of Science & Technology
Jeff	Reinkemeyer	The Wind Coalition
David	Shanks	The Boeing Company
Terry	Smith	Hampton Alternative Energy Products
Brent	Stewart	Association of Missouri Electric Cooperatives
Jim	Turner	Sierra Club-Missouri Chapter
Kevin	Van de Ven	Nucor Corp.
Gary	Wheeler	Missouri Soybean Association

### ***Public Attendance***

A total of 37 members of the public attended the meeting.

## **MEETING PROGRESSION**

### ***Welcoming Remarks***

Lewis Mills, Director of the Division of Energy for the Department of Economic Development, welcomed Steering Committee members and the public to the meeting, presented the agenda for the meeting and invited comments from the public during the public comment period.

### ***Presentations***

Three speakers were invited to present to the Steering Committee and the public on topics related to energy efficiency and natural resources. The PowerPoint slides and video of the presentations made at the meeting are available for viewing at

<http://energy.mo.gov/energy/about/comprehensive-state-energy-plan>.

**Title of Presentation:** Northwest Missouri State's Approach to Sustainability

**Speakers:** Dan Boyt, Northwest Missouri State University

James Teaney, Northwest Missouri State University

**Summary:** The speakers provided an overview of initiatives that Northwest Missouri State has undertaken through the years to conserve energy and use alternative fossil fuels.

**Title of Presentation:** Fuels and Resource Extraction

**Speaker:** Joe Gillman, State Geologist, Department of Natural Resources

**Summary:** The presentation focused on the extraction of natural resources, looking at traditional energy and non-conventional energy and why "rocks matter." The presentation also showed resources available around the State of Missouri that are used in the energy industry.

### ***Steering Committee Discussion***

Bennett J. Johnson, III, with the Inova Energy Group team, facilitated the Steering Committee discussion. A synopsis of comments made by Steering Committee members follows:

- Discussion about coal resources available in Missouri – coal bed in Missouri is shallow and coal is limited, coal is imported from other states because of this reason and also because of cleaner (lower sulfur) coal available, particularly in Wyoming. The discussion also covered issues associated with coal-powered generation, such as impacts to the environment (water pollution, air pollution, and climate change) and to human health. Thoughts were shared around accounting for externalities resulting from coal and other fossil fuels and it was noted that the Clean Power Plan incorporates an approach that starts to properly align externalities with generation sources. It was also noted that coal is one of the most reliable and low-cost electricity sources and Missouri's low cost of energy makes it attractive to potential new businesses.
- Discussion on hydraulic fracturing (fracking) – Currently, fracturing is utilized by the oil and gas industry in Missouri; however, the reserves here are shallow so fracking is not done in the same manner or to the extent as other shale reserves in other states like PA or OK. For example, far less pressure is required due to Missouri's topographical differences. Additionally, Missouri's water table is located below, not above, the oil and gas reserves unlike other regions where fracking is utilized. This unique topography raises more concerns about compromising well integrity of domestic supply water wells rather than ground water aquifers. Missouri has longstanding rules on the books regarding 'liquid injection' but Department of Natural Resources (DNR) is currently revising the decades old language to update and incorporate modern production methods including fracking.
- There was a conversation around increasing research in different areas that include traditional and non-traditional fuels. In addition, thoughts were shared around incorporating an educational component from an operations and finance perspective and coordination between funding programs.
- Discussion about utilization of carbon storage and sequestration concluded that the geology in Missouri does not lend itself to these kinds of activities. Early exploration did not prove out the technology.
- As more sources of renewable energy are installed, we need to ensure that opportunities exist for customers but also that utilities have a way of recognizing lost revenues. The same holds true for water utilities; as water usage is reduced, utilities need a way to recover lost revenue.
- Discussion on the connection between energy generation and the amount of water used for plant cooling. In addition, the discussion focused on the amount of energy needed to move water around and opportunities to meet the objectives of the Plan by taking advantage of improvements to drinking water and wastewater systems, including treatment plants and piping that is outdated and results in leakage. The leakage rate in Missouri is estimated to be 15% which would equate to 158,000 megawatt-hours of electricity – enough to power over 12,000 residential customers for a year. Reducing leakage through more efficient infrastructure may be a greater opportunity than a focus on demand-side management (customer energy efficiency programs and rate design) but both are significant in terms of potential energy efficiency. Furthermore, improving pumps and motors from 50% efficiency

to 80% efficiency would produce enough energy savings to power the Chicago for 2 years. Proper regulatory mechanisms are needed to initiate these efforts.

- Thoughts were also shared about using riverways as a means of transportation instead road or rail transportation. Studies have identified huge biomass potential in Missouri but costs are not competitive yet. Decreasing the transportation cost associated with moving feedstocks would make biofuel and especially biomass production more feasible. Barges could also be used to move other energy resources such as natural gas. Coordination with the Army Corp of Engineers would be required to manage water levels and dredging to facilitate more reliable barge traffic.
- Thoughts were shared around the need to prioritize goals in order for the Plan to be effective and implementable. A recommendation was made to consider the economic future of the State, identify the industries that are expected to be maintained and grown in Missouri, and design strategies to meet those industries' energy needs.
- The need for training was mentioned throughout many of the discussions, in terms of water treatment facility operators and city administrators and as it related to building operators.

### ***Public Comment Period***

During the public comment period a total of 11 individuals submitted verbal testimony to the Steering Committee and the Department of Economic Development. All comments were recorded and included in this report as Attachment 1.

## ATTACHMENT 1 - Public Comments

October 23, 2014

Maryville, Missouri, Northwest Missouri State University Student Union

The comments provided in this document do not represent a verbatim transcription of the comments received verbally and may incorporate some close paraphrasing on behalf of the record-keeper. Comments are not shown in the order in which they were received.

First Name	Last Name	Affiliation	Comments
Stephen	Balogh		I am from St Joseph. No one has addressed the future in the long term - the effects of fossil fuels are still the same. I appreciate improvements and efficiencies, but these were spurred by government rules on business. Climate change could push us backwards in technology, or even extinction. A common myth is that there's disagreement among experts - this is just not true. I am glad Missouri is doing its part in climate change, but in the past we have been mostly a passive participant. We haven't seen the worst of climate change yet. We could be in a serious water crisis soon.
Daniel	Boyt	Northwest Missouri State University	The conversation today proceeded with a false dichotomy on EPA's Clean Power Plan, and there was no mention of conservation. Environmental benefits are a natural outgrowth of economic investment in conservation. If EPA rules get legislated to death, it will become something else. Missouri is at a unique risk because of coal reliance. There are in-state energy efficiency businesses. In terms of education, there is a disconnect between operators and budget managers. We need to show economic value to the budget. A biomass statistic: the Northwest Missouri State University campus uses biomass to produce 58% of its energy.
Doyle	Childers	Consultant	Just east of here there is the largest biogas operation in the U.S. (methane from lagoons). This could be replicated many times in Missouri. Biogas with anaerobic digesters can be done across the state. This impacts the environment and energy. I hope the group explores this.
James	Daniels	Hampton Alternative Energy Products	We started the first Missouri anaerobic digester for cattle operation. The government was very helpful in this effort but utilities were not. Utilities have nothing to fear, we just want to complement their work. We need transparency. We can get rid of waste streams by incorporating anaerobic digesters. Also investing in a biomass plant, this is a way to remove a waste stream. We need help to enter the market with products that help make biogas projects viable-- the big competitors don't want us there.

First Name	Last Name	Affiliation	Comments
Nancy	Dunham	Citizens Climate Lobby	There is a threat of climate change that could tear our world apart primarily due to fossil fuel burning. I am a landowner in Atchison County and am personally concerned with the economic effects of climate change, including crop loss and increased crop insurance costs. Electricity from KCP&L is mostly coal - and the fuel mix needs to change to include an increase in renewable energy for future generations. Economists agree that a carbon fee will be the most effective method - tax the product when it first enters the market; it will pay dividends to the public not to government. CCL study (Regional Economic Models Inc/REMI, June 2014) shows benefits of a carbon fee including jobs, health and carbon reduction. Missouri should commission REMI to do a study and use a carbon tax to meet EPA's Clean Power Plan.
Kelly	Gilbert	Metropolitan Energy Center	The Missouri Department of Economic Development handout graphs show a disconnect between transportation energy use and spending, similarly with petroleum. We should look at consumer expenditures on transportation fuels (they are significant). I would like to see this shifted from petroleum to natural gas. I want the Comprehensive Statewide Energy Plan to have proportional interest in transportation energy. Also, I want discussion of the energy/agriculture nexus, including recovery of biogas from animals and landfills. Also support for biodiesel. Electric vehicles must be a major part of transportation. Missouri is host to two major electric vehicle manufacturers (Smith Electric and Orange EV) - jobs creation is mostly in electric and compressed natural gas.
Maureen	Healey	American Coalition for Clean Coal Electricity	I represent coal producers, railroads, etc. We want coal to compete on a level-playing field. Coal provides Missouri with cheap energy. EPA's Clean Power Plan is terribly flawed because of legal issues and its economic impact. The American Coalition for Clean Coal Electricity recently released a study that showed Missouri would have an 18% increase in energy costs annually, plus lost jobs. There would also be an impact on low and moderate-income Missouri families.
Kevin	Herdler	St Louis Regional Clean Cities Program	Consider American fuels in the Plan; this creates jobs, and we don't have to go overseas. Biofuels and natural gas are options. There's a landfill company and interested electric vehicle companies. Infrastructure tax credits can be used for this. Get off foreign oil.
Chad	Sayre	Enginuity Worldwide	Studies confirm "biomass corridor" of feedstocks in Missouri and beyond. This includes non-food, non-woody waste, sometimes carbon neutral or negative. Missouri has an excellent and diverse transportation system that will support biomass export and biomass fuel export. In the past, biomass was not easily transported. Enginuity Worldwide technology makes biomass durable, transportable and cost-effective ("e-carb fuel"). This can be used with (co-fire) or as a replacement for coal. Biomass hubs create jobs.
Paul	Snider	Brightergy	Missouri is transitioning to renewable energy, including distributed generation. It is important to focus on how this is done. We don't want to unfairly disadvantage some from doing this. Customers want energy savings and reliability - this requires data from smart

First Name	Last Name	Affiliation	Comments
			meters. Consider availability of energy usage data to third party providers. Combined heat and power can be done for commercial/institutional size buildings that typically run off natural gas.
Lanny	Wagoner	Fuel Conversion Solutions	I urge appropriation funding for Senate Bill 729, for the alternative fuels tax credit. We do vehicle conversions to compressed natural gas and propane. Our company has two locations in the state, and most vehicles have left Missouri because other states have incentives for alternative fuel vehicles. We are losing tax revenues and fees from this. Oklahoma has a rebate, Arkansas, Illinois and Nebraska have incentives. Missouri doesn't have. We need funding for the alternative fuel tax credit.